

Notice of Allowability

Application No.

10/797,015

Examiner

Monica A. Fontaine

Applicant(s)

MBACHU ET AL.

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Telephone conversation 31 March 2005.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ The drawings filed on 3/11/04 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 040105.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

This office action is in response to the telephone interview conducted 31 March 2005.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mary Breiner on 1 April 2005.

The application has been amended as follows:

Claim 1 has been replaced with the following claim:

1. Method for calibrating electromagnetic-radiation spectroscopic-instrumentation so as to enable quantitative analyses of curable resin, as applied to a substantially-planar veneer-wood sheet surface area during in-line movement of the sheet toward assembly of multiple-ply bundles for producing engineered-composite wood-veneer product, consisting of
 - (A) providing spectroscopic-instrumentation enabling selecting wood-surface penetrative wavelengths of electromagnetic-radiation in a range of about 350 nm to about 2500 nm;

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(B) quantitatively pre-establishing pre-determined surface-application of said resin, at a selected level of weight per specified surface area, for individual reference-source wood-veneer test-samples;

(C) supporting said test-samples with pre-established resin-application for movement on a conveyance;

(D) positioning spectroscopic instrumentation providing electromagnetic-radiation in a range of wavelengths including wavelengths absorbed by said resin and capable of penetrating wood-veneer of said test-samples;

(E) controlling rate of movement of said conveyed test-samples with respect to said instrumentation, and coordinating said rate of movement with a selected in-line controlled-rate of movement for lay-up of veneer-wood plies for commercial production of said engineered-composite veneer-wood product;

(F) illuminating a predetermined surface area of said pre-established resin application of said test-samples with visible light (VIS) and simultaneously irradiating with near infra-red (NIR), during said conveyed movement of said test samples relative to said instrumentation,

(G) quantitatively measuring radiation absorbance by pre-established resin applications to individual respective test-samples, for calibrating said spectroscopic-instrumentation, during said controlled rate of movement with respect to said instrumentation.

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Claim 2, line 2, “including” has been replaced with --consisting of--

Claim 3, line 1, “including” has been replaced with --further consisting of--

Claim 4, line 2, “including” has been replaced with --consisting of--

Claim 5, line 1, “4” has been replaced with --13--

The following claims 10-13 have been added:

10. Method for calibrating electromagnetic-radiation spectroscopic-instrumentation so as to enable quantitative analyses of curable resin, as applied to a substantially-planar veneer-wood sheet surface area during in-line movement of the sheet toward assembly of multiple-ply bundles for producing engineered-composite wood-veneer product, comprising

(A) providing spectroscopic-instrumentation enabling selecting wood-surface penetrative wavelengths of electromagnetic-radiation in a range of about 350 nm to about 2500 nm;

(B) quantitatively pre-establishing pre-determined surface-application of said resin, at a selected level of weight per specified surface area, for individual reference-source wood-veneer test-samples;

(C) supporting said test-samples with pre-established resin-application for movement on a conveyance;

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(D) positioning spectroscopic instrumentation providing electromagnetic-radiation in a range of wavelengths including wavelengths absorbed by said resin and capable of penetrating wood-veneer of said test-samples;

(E) controlling rate of movement of said conveyed test-samples with respect to said instrumentation, and coordinating said rate of movement with a selected in-line controlled-rate of movement for lay-up of veneer-wood plies for commercial production of said engineered-composite veneer-wood product;

(F) illuminating a predetermined surface area of said pre-established resin application of said test-samples with visible light (VIS) and simultaneously irradiating with near infra-red (NIR), during said conveyed movement of said test samples relative to said instrumentation,

(G) quantitatively measuring radiation absorbance by pre-established resin applications to individual respective test-samples, for calibrating said spectroscopic-instrumentation, during said controlled rate of movement with respect to said instrumentation; and

including calibrating said spectroscopic-instrumentation to be additionally responsive to absorptive effects of moisture content of said veneer-wood and said applied resin, by selecting radiation wavelengths with peak absorbance by said moisture.

11. The invention of Claim 10, further including

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(H) utilizing spectral-data responsive to absorbance of selected radiation wavelengths, by said pre-established resin-applications on said test-samples, for calibrating said spectroscopic instrumentation for monitoring resin-application, during commercial production of veneer-wood product, by verifying that a linear relationship exists between:

(i) spectroscopically determined absorbance of said selected wavelengths by applied resin, and

(ii) said quantitatively pre-established resin-application on respective individual test-samples.

12. The invention of Claim 11, further including

(I) establishing resin-application on said test-samples so as to present an incrementally-progressive quantitative resin-application for veneer-wood of respective test-samples, with said quantitative resin-application being capable of being related to a resin-weight per specified surface area, during commercial production of a veneer-wood product;

(J) receiving spectral-data, in the form of non-absorbed radiant energy, of said selected wavelengths, as reflected back by said conveyed wood-veneer test samples, for spectroscopically determining absorbance of said selected wavelengths by said applied resin, and

(K) mathematically calculating radiation absorbance of resin applied to respective test samples, for establishing

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(i) a linear-relationship between absorbance of said selected wavelengths,
and

(ii) quantitative resin-application on said individual test-samples for
calibrating said spectroscopic instrumentation for use during said commercial
production.

13. Method for calibrating electromagnetic-radiation spectroscopic-instrumentation
so as to enable quantitative analyses of curable resin, as applied to a substantially-
planar veneer-wood sheet surface area during in-line movement of the sheet toward
assembly of multiple-ply bundles for producing engineered-composite wood-veneer
product, comprising

(A) providing spectroscopic-instrumentation enabling selecting wood-surface
penetrative wavelengths of electromagnetic-radiation in a range of about 350 nm to about
2500 nm;

(B) quantitatively pre-establishing pre-determined surface-application of said
resin, at a selected level of weight per specified surface area, for individual reference-
source wood-veneer test-samples;

(C) supporting said test-samples with pre-established resin-application for
movement on a conveyance;

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(D) positioning spectroscopic instrumentation providing electromagnetic-radiation in a range of wavelengths including wavelengths absorbed by said resin and capable of penetrating wood-veneer of said test-samples;

(E) controlling rate of movement of said conveyed test-samples with respect to said instrumentation, and coordinating said rate of movement with a selected in-line controlled-rate of movement for lay-up of veneer-wood plies for commercial production of said engineered-composite veneer-wood product;

(F) illuminating a predetermined surface area of said pre-established resin application of said test-samples with visible light (VIS) and simultaneously irradiating with near infra-red (NIR), during said conveyed movement of said test samples relative to said instrumentation,

(G) quantitatively measuring radiation absorbance by pre-established resin applications to individual respective test-samples, for calibrating said spectroscopic-instrumentation, during said controlled rate of movement with respect to said instrumentation

(H) utilizing spectral-data responsive to absorbance of selected radiation wavelengths, by said pre-established resin-applications on said test-samples, for calibrating said spectroscopic instrumentation for monitoring resin-application, during commercial production of veneer-wood product, by verifying that a linear relationship exists between:

(i) spectroscopically determined absorbance of said selected wavelengths by applied resin, and

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(ii) said quantitatively pre-established resin-application on respective individual test-samples.

(I) establishing resin-application on said test-samples so as to present an incrementally-progressive quantitative resin-application for veneer-wood of respective test-samples, with said quantitative resin-application being capable of being related to a resin-weight per specified surface area, during commercial production of a veneer-wood product;

(J) receiving spectral-data, in the form of non-absorbed radiant energy, of said selected wavelengths, as reflected back by said conveyed wood-veneer test samples, for spectroscopically determining absorbance of said selected wavelengths by said applied resin, and

(K) mathematically calculating radiation absorbance of resin applied to respective test samples, for establishing

(i) a linear-relationship between absorbance of said selected wavelengths, and

(ii) quantitative resin-application on said individual test-samples for calibrating said spectroscopic instrumentation for use during said commercial production; and

including calibrating said spectroscopic-instrumentation to be additionally responsive to absorptive effects of moisture content of said veneer-wood and said applied resin, by selecting radiation wavelengths with peak absorbance by said moisture.

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Allowable Subject Matter

Claims 1-13 allowed.

The following is an examiner's statement of reasons for allowance: Regarding Claims 1-5, the prior art of record neither teaches nor suggests the exclusively-claimed method steps. Regarding Claim 6, the prior art of record neither teaches nor suggests the claimed method for quantitatively monitoring curable adhesive resin as applied online to a selected surface area of a veneer wood-sheet, wherein, particularly, steps (A)-(C) and (G) are required. Regarding Claims 10-13, the prior art of record neither teaches nor suggests the claimed method, including calibrating said spectroscopic-instrumentation to be additionally responsive to absorptive effects of moisture content of said veneer-wood and said applied resin, by selecting radiation wavelengths with peak absorbance by said moisture.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Fontaine whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Maf
April 1, 2005



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